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URETHANE CONCRETE

F-52 TD

TECHNICAL DATA SHEET

COMPONENTS	SOLIDS	VOC	MIX RATIO
3	>97%	<50 g/l	1.05 gal. A, 0.75 gal. B, 90 lbs. C

DESCRIPTION

F-52 TD is a revolutionary formulation that allows longer working time with a snap-cure. It combines our water-based urethane resin and aromatic hardener with our proprietary blend of portland cement, lime and fillers (PN 1352 T). It has been formulated to provide the highest degree of impact and thermal shock resistance of any urethane concrete on the market. It's low odor and easy application make it perfect for industrial applications.

RECOMMENDED USES

F-52 TD is most often used as a self-priming, concrete flooring overlay. It is used to achieve 1/4"-3/8" thick overlay in one pass and can be trowel or rake applied. Because it is a mortar, it is the ideal material for sloping floors and creating ramps and transitions. It can also be applied to green concrete.

LIMITATIONS

Each mix pf F-52 TD will cover 50 sq. ft. at 1/4" theoretical coverage. A waste factor of 5% should be contemplated when mixing and installing. Ideal application temperatures to be between 60-90°. Cooler temperatures will increase cure times. Warmer temperatures will decrease working and cure times. Verify that substrate temperature is above 5 degrees of dewpoint during application and cure of material to avoid a potential amine blush.

SURFACE PREPARATION

The preparation method for each project is determined by a full understanding of the substrate to be coated, the chemistry of the coating system being used, the coating system thickness, and numerous other factors. The coating installer should fully read and understand ICRI Guideline NO. 310.2R-2013 and OSHA 29 CFR 1926.1153 before starting preparatory work. The aim, of preparing a substrate for coating applications, is to roughen the surface, remove weak layers, contaminants, dirt, debris and present a solid, clean, dry substrate for the primer. If unsure as to the level of preparation needed contact Polymer Nation at Lab@polymerNation.com.

MIXING

A mixture consists of 1.05 gal. Part A, 0.75 gal. Part B and 90 LB. of Part C (PN 1352 T). Combine part A and B into a single container, large enough to accept the entire kit (1 mix equals 8.4 gallons when Part C is added). Premix liquids at 350 RPM for 30-60 seconds using an appropriate mixing blade or mixing machine. Pour Part C into the mixed resin and continue mixing until a homogenous mortar is achieved (2-3 minutes usually)

APPLICATION

Pour the entire content from the container onto the floor and follow normal trowel of rake and finish techniques. Recoat within 24 hours. Clean tools with a solvent similar to Denatured Alcohol or Acetone.

COMPONENTS

Part A

Part B

Part C

GENERAL PRODUCT INFORMATION

Chemistry	Urethane Concrete
Color / Finish	Natural, Tile Red, Light Gray, Medium Gray, Dark Gray, Black
Number of Components	3
Solids by Volume	>97%
VOC (Mixed)	<50 g/l
Mix Ratio	1.05 gal. A, 0.75 gal. B, 90 lbs. C
Mixed Viscosity	300 cP
Gel / Working Time	15-20 minutes
Application Temperature	60-90°F
Odor	Low odor

All Technical Data gathered at temperatures of 72-75°F and 30-50% RH

Accuracy when mixing kits from bulk containers is critical. For mix ratio by weight contact Lab@polymerNation.com.

Liquids only. 25°C/77°F (A&B)

PHYSICAL PROPERTIES

The data below was gathered at temperatures of 72-75°F and 30-50% RH

Hardness	D70 @ 24 hours / D78 @ 7 days	Shore D
Tensile Strength	1,400 psi	ASTM C307
Compressive Strength	8,000 psi	ASTM C579
Flexural Strength	2,500 psi	ASTM C580
Abrasion — Taber CS-17	0.029g Loss (when higher abrasion resistance is required the addition of PC 1336 to the coating should be included)	ASTM D4060
Impact Resistance	>160 inch pounds The addition of PC 1244 drastically improves performance	ASTM D2794
Adhesion to Concrete	>450 Substrate failure	ASTM D7234
Gloss @ 60°	30-40	
Color Scale	0.5-1.0	ASTM D1500
Accelerated Weathering	Significant yellowing	ASTM G154
Moisture Absorption	0.04%	ASTM C413
Coefficient of Thermal Lineal Expansion	2 x 10-5	ASTM C531
Water Vapor Transmission	See ASTM D3010	ASTM D1653
Independent Certificate — Third-Party Testing	Breathable	ASTM D3010
Adhesion	N/A	ASTM D3359
Adhesion to Steel	N/A	ASTM D4541
Hiding Power	N/A	ASTM D5150
Flammability When Adhered to Concrete	Self-Extinguishing	ASTM D635
Coefficient of Friction — Dry	0.75	NFSI B101.0
Coefficient of Friction — Wet	0.7	NFSI B101.1

ASTM D4060 — Abrasion Resistance CS17 1000 g 1000cycles in g Loss

Milky appearance when mixed before colorants are introduced. Color scale per ASTM D1500.

CURE SCHEDULE

Dry to Touch	2 hours
Through Dry	4-6 hours
Dry to Walk	6-10 hours
Dry to Light Use	16-24 hours
Full Cure	7 days

COVERAGE & PACKAGING

Coverage Rate	approx. 36-50 sq. ft./kit
Application Thickness	1/4" – 3/8"
Recoat Window	Recoat within 24 hours.
Packaging	1, 262 Gallon kits
Number of Mixes per Kit	1 mix equals 8.4 gallons when Part C is added (1.05 gal. Part A, 0.75 gal. Part B, 90 LB. Part C)

STORAGE, HANDLING & SAFETY

Store at 60-80 degrees F. Store material between 60-80 degrees F in a protected dry location. Refer to the current Safety Data Sheet (SDS) for this product before handling, mixing, or applying. Use appropriate personal protective equipment and ensure adequate ventilation during application and cure. Dispose of material, containers, solvents, etc., per Federal, State and local guideline, rules and laws.

TEST DATA

Test data has been gathered from testing conducted by independent, internal and third party testing. The best way to compare coating performance is by head-to-head independent testing as this removes the numerous variables found between testing standards, equipment and testing agencies.

TYPICAL VALUES

The information here is general information to help our customers determine whether our products suit their specific applications. Our products are intended for sale to commercial and industrial customers. We require that customers inspect and test our products before use to satisfy themselves as to the content and suitability for the applications they intend to use our products. Nothing herein shall constitute any warranty expressed or implied, including any warranty of merchantability or fitness for a particular purpose, nor is any protection from any law or patent to be inferred. The exclusive remedy for all proven claims is the replacement of our materials, and we shall not be liable for incidental or consequential damages. Polymer Nation Chemical Company LLC, 405 Oakwood Ave. Waukegan, IL 60085. All rights reserved.